



AT4 wireless, S.A.U.  
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Date: 09/01/2017

**Ref: RF exposure analysis for the equipment FCC ID: WT7PTMDT500760C**

The device MDT-500-2 (FCC ID: WT7PTMDT500760C) is a device designed to be used mobile/fixed exposure conditions. The analysis provided in this document only covers mobile exposure conditions and for that, the antenna(s) used for this transmitter must be installed to provide a separation of at least 52 cm from all the persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

**MPE exposure limits**

The table below is excerpted from Table 1(A) of 47 CFR 1.1310 titled "Limits for Maximum Permissible Exposure (MPE), (A) Limits for Occupational/Controlled Exposure":

Frequency Range (MHz)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
300-1500	f(MHz)/300	6

Using the equation  $S = \frac{PG}{4\pi R^2}$  to calculate the exposure to electromagnetic fields

where: S = power density (in appropriate units, e.g. mW/cm<sup>2</sup>)

P = power input to the antenna (in appropriate units, e.g., mW)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)



Compliance with FCC maximum permissive exposure limits is demonstrated based on the following calculations.

Regulatory domain	Technology	Frequency (MHz)	Avg burst Conducted power (dBm) (Maximum per tune up procedure)	Avg burst Conducted power (W)	Duty cycle (%)	Average Conducted power (W)	Maximum Antenna Gain (dBi)	Maximum antenna gain (numerical)	Average radiated power (W)	FCC MPE limits (Controlled exposure) (mW/cm <sup>2</sup> )	Safety distance to meet MPE limits (cm)	Evaluation distance/Safety distance as stated in the users guide (cm)	Maximum exposure (mW/cm <sup>2</sup> )
FCC	P25 - 8.1 kHz	769,0125	44,25	26,607	100,0%	26,607	5	3,16	84,14	2,563	51,11	52	2,476
		774,9875	44,25	26,607	100,0%	26,607	5	3,16	84,14	2,583	50,91	52	2,476
		799,0125	44,25	26,607	100,0%	26,607	5	3,16	84,14	2,663	50,14	52	2,476
		804,9875	44,25	26,607	100,0%	26,607	5	3,16	84,14	2,683	49,95	52	2,476
	TI DLMR – 20 kHz	769,0125	38,50	7,079	100,0%	7,079	5	3,16	22,39	2,563	26,36	52	0,659
		774,9875	38,50	7,079	100,0%	7,079	5	3,16	22,39	2,583	26,26	52	0,659
		799,0125	38,50	7,079	100,0%	7,079	5	3,16	22,39	2,663	25,86	52	0,659
		804,9875	38,50	7,079	100,0%	7,079	5	3,16	22,39	2,683	25,77	52	0,659
		809,0125	38,50	7,079	100,0%	7,079	5	3,16	22,39	2,697	25,70	52	0,659
		823,9875	38,50	7,079	100,0%	7,079	5	3,16	22,39	2,747	25,47	52	0,659
		854,0125	38,50	7,079	100,0%	7,079	5	3,16	22,39	2,847	25,02	52	0,659
		868,9875	38,50	7,079	100,0%	7,079	5	3,16	22,39	2,897	24,80	52	0,659
	TETRA - 22 kHz	769,0125	38,50	7,079	100,0%	7,079	5	3,16	22,39	2,563	26,36	52	0,659
		774,9875	38,50	7,079	100,0%	7,079	5	3,16	22,39	2,583	26,26	52	0,659
		799,0125	38,50	7,079	100,0%	7,079	5	3,16	22,39	2,663	25,86	52	0,659
		804,9875	38,50	7,079	100,0%	7,079	5	3,16	22,39	2,683	25,77	52	0,659
		809,0125	38,50	7,079	100,0%	7,079	5	3,16	22,39	2,697	25,70	52	0,659
		823,9875	38,50	7,079	100,0%	7,079	5	3,16	22,39	2,747	25,47	52	0,659
		854,0125	38,50	7,079	100,0%	7,079	5	3,16	22,39	2,847	25,02	52	0,659
		868,9875	38,50	7,079	100,0%	7,079	5	3,16	22,39	2,897	24,80	52	0,659

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